## REMARKS/ARGUMENTS

### Amendment of claims 1, 5, 9, 10 and 12

Claim 1 amended to emphasize that the release end is the end of the container away from dispensing section, not the end toward the dispensing section.

Claim 5 has been amended to incorporate the subject matter of claim 9, which has now been cancelled. Claim 10 has been amended so that it now depends from claim 8.

Claim 12 has been amended to make it clear that the dispensing section moves independently of the container between the downwardly and upwardly tilted positions.

Claim 16 has been amended to conform the language to that of claim 5 as now amended.

A self-explanatory grammatical correction has been made in claim 19.

### Rejection of Claims 1 and 5

All of the various Section 103(a) claim rejections seems to be predicated on the proposition that the end of the container toward the dispensing section" is the release end." In the paragraph labeled a of the rejection of claims 1 and 5 the "release end" is said to be the end toward container end 14A. Yet, in the paragraph labeled c of the same rejection the "release end" is stated to be the toward container end 14B. Of course, it cannot be both.

Base claim 5 makes it clear that the release end is opposite to the dispensing section end, namely, "---the track extending to a release end of the container and in an opposite direction toward the article dispensing section---" (emphasis supplied). Claim 1 as amended has the same language making this relationship equally clear in that claim. The rejection of claims 1 and 5 does go on to acknowledge that Kvalheim does not disclose a feeder collator section having means for removal of uncollated screws or means for removal of collated screws. MacKenzie discloses a hopper with housing covers, including a cover 108 at the back end so that "--the interior of the tilt pot hopper shall be accessible to the operator—". Neither Kvalheim or MacKenzie contemplates automatic removal of even loose articles (screws or nails) from the container (other than by moving them forward one-at-a-time through each slot at the escapement or dispenser) much less the screws or nails queued in the slots.

As examined and analyzed in more detail in the declaration of Munsch, opening of cover 108 at the rear end of the MacKenzie hopper would not open the nailways 28 to the release of nails in the nailways to move rearwardly and out of the hopper. The nails would remain caught in queues in the nailways, at the rearward ends of the nailways, just as shown clearly in Fig.1.

Thus, the "gate" in MacKenzie neither opens or closes the nailways (slots) to release the articles. Nor does this disclosure suggest removal of the nails from the nailways.

Similarly, in no embodiment of Kvalheim is there disclosed a "gate" that open and close the slots Indeed, in Kvalheim floor plates 18A are permanently fixed against end wall 14A.

## Rejection of Claims 2, 5 and 13

The rejection specific to these claims characterizes MacKenzie as disclosing a nail dispenser wherein the means for selectively opening the release end of the tracks (nailways) 86 at the release end. To the contrary, nailways 86 terminate in the rearward ("release") direction about half way along the hopper floor, well in an advance of cover 106 at that end. Close inspection of Fig. 1 of MacKenzie show hopper 20 tilted downward toward cover 106 at its rearward end and yet nails 26 are held in a row at the rearward ends of nailways 28 and would not move farther rearwardly even if cover 106 was opened. See In this respect the Munsch declaration.

Rearward ends to the nailways or slots are understood in the art to be necessary for practical operation. If the slots are open rearwardly then during operation nails or (or screws) accumulated in the slots but not yet transferred to the raceways (dispenser section) will fall out of the slots each time the hopper rotates down in the rearward direction. Hence, the nailway configuration of MacKenzie merely follows the art practice of providing rearward ends to the nailways or slots.

Clearly there is no possibility for interaction between nailways 26 and cover 106 to open nailways 26 as their rearward ends are permanently closed. Thus these claims are directed to subject matter not suggested or disclosed by MacKenzie.

## Rejection of Claims 7

Regarding claim 7, Kvalheim does not disclose or suggest the combination of multiple tracks extending to the release end with any means for selectively opening these tracks at the release end. Endwall 14A of Kvalheim is permanently secured against bottom plate 18A. As corroborated by the declaration of Munsch, the nailways 28 end in the rearward direction far forward of the rearward end of hopper 20 and there is no interaction show, suggested or, indeed, possible between cover 106 at the rearward end and nailways 28.

## Rejection of Claims 9, 16 and 19

As the subject matter of claim 9 has now been incorporated into claim 5, the following remarks will also apply to claim 5.

This rejection appears to be based on the use in the embodiment of Figs. 11-13 of Kvalheim of a movable gate 30 to detain articles in the slots 22. Contrary to this characterization, gate 30 does not detain articles in the slots from movement in either direction. The only function of gate 30 is to stop loose articles from moving forward beyond gate 30 when the slots are tilted upward toward the release end. (Note in this respect that gate 30 has a cut out 40 at the bottom margin over each slot so that gate 30 does not impede flow along the slots.) Instead, fingers 39 on assembly 16 move to close off the slots when the slots are tilted downwardly toward the release end so that articles may advance toward the dispensing section. There is no provision in Kvalheim for overriding these controls to instead open the slots when the slots are tilted downwardly toward the release end. Nor is their any suggestion or reason provided in Kvalheim (or MacKenzie, for that matter) for doing so. Any such connection could only be found by impermissible hindsight reconstruction in view of the present invention.

This conclusion is reinforced by comparison of the embodiment of Fig 11 with the alternative means proposed for detaining articles in the first embodiment (Fig. 1) of Kvalheim and in the hopper of MacKenzie

In the first embodiment of Kvalheim there is a recess 22A extending toward the escapement, beginning at a distance in advance thereof, that serves as a ledge against which screws lodge when the slot is tilted downward in the direction of the collating section, thereby preventing these screws from sliding back to the collating section. Thus the screws in the recess are retained in their forward position through the full cycle of oscillation (see column 4, lines 22-34). No means is provided or suggested in Kvalheim for overriding this functioning, to instead release the screws to move rearwardly.

A similar arrangement is provided in the hopper of MacKenzie. A ramp block 92 is provided toward the forward ends of the nailways for the explicit purpose of retaining the nails that reach it from sliding backwards in the nailways when the hopper tilts downward toward the rear end. (see the declaration of Munsch for further detail on the ramp block and its effect). Removing the nails from under the ramp block would require a time-consuming hand operation.

It can be seen from the foregoing that the function and teaching of assembly 16 and its components is directly opposite of the detaining means of claims 5 and 16. That is, assembly 16 is set up only to prevent screws in the slots from sliding back to the rear (release) end. When the rear (release) end of the container of Kvalheim tilts downwardly toward the rear (release) end fingers 39 are operable only to block rearward movement of screws in the slots. In the claims here the detent means that are normally operable to block rearward movement of screws during operation of the feeder have the capability of being rendered inoperable during changeover of screws. Nothing in either Kvalheim or MacKenzie suggests this functionality. If anything, this teaching in Kvalheim leads away from the invention rather than suggesting it.

Importantly also, Kvalheim does not disclose or suggest the combination in an oscillating article feeder of means for selectively operable to detain articles from sliding back beyond a selected intermediate location along the tracks with any means for selectively opening these tracks at the release end.

As for claim 19, this is directed to a wholly different feature namely regulatory gate 30 (see the specification at page 9, lines 16-35). Gate 3o is for the purpose of restricting movement forward of screws not in the slots and does not stop movement either forward or backward of screws in the slots at any time. Gate 30 is opened only during changeover, with the pivoting upward of the dispenser section, for the purpose of releasing any jammed screws. Kvalheim has no relevant disclosure. MacKenzie does disclose a ramp block 92 having tunnels 96 over nailways 28, which serves a similar function of preventing forward movement of loose nails. However, block 92 is fixed and not openable to release nails toward the rearward end of the hopper. Thus, MacKenzie fails to suggest the regulatory gate of claim 19.

## Rejection of Claims 10, 11, 12, 14, 17, and 18

Detent 51 of Kvalheim is thoroughly discussed above in relation to the rejection of claims 9, 16 and 19 and that discussion applies equally to claims 10, 11, 14, 17 and 18. As claim 12 makes no reference to detaining means, this rejection is simply inapplicable to it so this claim will be treated separately below.

## Rejection of Claims 12

The specific rejection of claim 12 does not discuss the provision in (d) of means for moving the dispensing section, independently of the collating section, between a position where the track is tilted upward to the escapement and a position where the track is tilted downward to the escapement. The dispensing section of Kvalheim, being a rigid continuation of floor plate 18A, is incapable of moving independently of the dispensing section. The dispensing section of MacKenzie (raceway block 22) is rigidly held to nail slide 30 which, in turn, is rigidly held to mount 66 and this section is incapable of moving to a position with the raceways 24 tilted upwardly in the direction away from hopper 20. For this reason there is no practical way to remove the nails are queued in the raceways backward to the hopper, even by hand.

In contrast, as claimed in claim 12, the dispensing section may be tilted downward toward the collating section when the collating section is also tilted downward toward the release end, thereby permitting the articles queued in the dispensing section to slide back to the collating section and out of the container. This is a concept and capability not found in either reference.

## Commercial Success

The importance and commercial success of the quick article change hopper or feeder of this invention is demonstrated in the declarations of Harris, Libby, Routh, and Stephenson, attached.

The Libby and Harris declarations are the evaluations of two manufacturers using the hoppers with the quick change features of this invention and their impact on the operations of these companies and on the industry in general. Clearly the feeder of this invention has improved operations dramatically for both these companies and in their view they will have a similar impact across the industry.

As brought out by the Routh declaration, either the Quick Screw Change Hoppers of this invention or prior art hoppers of the same design ("Six-Shooter Hoppers"), at the customer's choice, are installed on door and jamb processing machines sold by Kval. The Quick Screw Change Hopper is sold with the Door and Jamb Processing Machines are all sold by Kval with the hoppers installed, at an installed price. However, those that are sold with Quick Screw Change Hopper have a purchase price premium of $12,550 per hopper over the price of the same machine with Six-Shooter Hoppers installed.

Since the introduction of the Quick Screw Change hopper in 2004, out of the 17 990F-3 Machines sold, Quick Screw Change Hoppers were selected for 14 of them. Of the 37 990F-4 machines that were sold, Quick Screw Change Hoppers have been selected for all but 3 of them. For 990FX Machines, each of which requires three hoppers, 4 were sold with Quick Screw Change Hoppers and 3 with Six-Shooter Hoppers.

The 990F-3 machines were sold with hopper at a price each of $200,000. The sales price for each of the 990F-4 machines was on the same basis for a price of $280,000. The 990FX machines each sold at a price of $268,000.

In addition, since 2004, 11 Quick Screw Change Hoppers have been sold for retrofit into existing customer machines, each at a price of $23, 000. Since the retrofit hoppers replace existing operational prior art hoppers this evidences a customer recognized value of the quick change function of this invention equivalent to or exceeding the full purchase price of the hopper itself.

Referring now to the Stephenson declaration, use of the invention for screw feeders on door and jamb processing machine can increase the productivity of the machine by as much as 12% to 30%. As indicated in the Routh Declaration, these machines typically costs between $200,000 and $280,000 and a feeder of this invention utilized on it sells at a premium of $12,550 as compared over for the same design of feeder without the quick screw change features of the invention. Thus the relatively small additional cost for the screw feeder of this invention can leverage an increase in efficiency for the $200,000-$280,000 machine upon which it is used of 12% to 30% or possibly greater. This provides a further demonstration of the value of this invention and its commercial success.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

Corwin R. Horton
Attorney for Applicant
Regis. No. 19,871
Suite 2001, The Park
25 Mann Drive
Kentfield,California, 94904
Tel. No. (415) 453-5443
CUSTOMER NO: 27304

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